Super-mini Signal Conditioners *Mini-M Series*

PT TRANSMITTER

MODEL **M2PA/M2PE**

MODEL & SUFFIX CODE SELECTION

M2P❑–❑❑–❑❑

MODEL
M2PA : Average sensing, RMS calibrated
M2PE : RMS sensing

INPUT (sine wave for M2PA)
1 : 0 – 110V AC
5 : 0 – 150V AC

OUTPUT

Current	Voltage
A : 4 – 20mA DC	**1** : 0 – 10mV DC
B : 2 – 10mA DC	**2** : 0 – 100mV DC
C : 1 – 5mA DC	**3** : 0 – 1V DC
D : 0 – 20mA DC	**4** : 0 – 10V DC
E : 0 – 16mA DC	**5** : 0 – 5V DC
F : 0 – 10mA DC	**6** : 1 – 5V DC
G : 0 – 1mA DC	**0** : Specify voltage
Z : Specify current	

POWER INPUT

AC Power	DC Power
M : 85 – 264V AC *1	**R** : 24V DC
M2: 100 – 240V AC	**R2**: 11 – 27V DC *1
	P : 110V DC

*1 : Select '/N' for 'Standards & Approvals' code.

STANDARDS & APPROVALS
/N : Without CE or UL
/CE : CE marking
/UL : UL approval (CE marking)

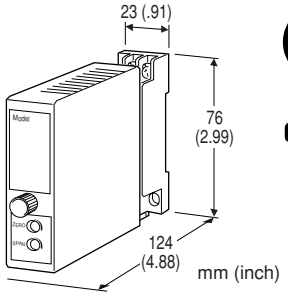
ORDERING INFORMATION

Specify code number and variables.
- **Code number** (e.g. M2PE-1A-M2/CE)
- **Special output range** (For codes Z & 0)

GENERAL SPECIFICATIONS

Construction: plug-in
Connection: M3 screw terminals (torque 0.8 N·m)
Housing material: flame-resistant resin (black)
Isolation: input to output to power
Input waveform
Average sensing: sine wave
RMS sensing: up to 15% of 3rd harmonic content
Overrange output: 0 – 120% at 1 – 5V
Front adjustments: zero and span; ±5%

ISOLATION



Functions & Features
• Converting an alternating voltage from a potential (voltage) transformer into a standard process signal • Minimum ripple • Average or RMS sensing • Universal power input • High-density mounting • CE marking • UL approval

Typical Applications
• Centralized monitoring and control of power line and power supply voltages measured at switch boards • Monitoring abnormal voltage drops for detecting overload

INPUT & OUTPUT

■**INPUT**: 0 – 110V AC or 0 – 150V AC
Frequency: 50 or 60 Hz
Input burden: 0.5VA maximum
Overload capacity: 200% of rating for 1 minute, 120% continuous
Operational range: 0 – 120% of rating

■**OUTPUT**
• **DC Current**: 0 – 20mA DC
Minimum span: 1mA
Zero suppression/elevation: max. 1.5 times span
Load resistance: output drive 15V maximum

Output	Load Resistance
4 – 20mA	: 750 (Ω maximum)
2 – 10mA	: 1500
1 – 5mA	: 3000
0 – 20mA	: 750
0 – 16mA	: 900
0 – 10mA	: 1500
0 – 1mA	: 15k

•**DC Voltage**: 0 – 12V DC
Minimum span: 5mV
Zero suppression/elevation: max. 1.5 times span
Load resistance: output drive 1mA maximum at ≥0.5V

Output	Load Resistance
0 – 10mV	: 10k (Ω minimum)
0 – 100mV	: 100k
0 – 1V	: 1000
0 – 10V	: 10k
0 – 5V	: 5000
1 – 5V	: 5000

INSTALLATION

Power input

AC: operational voltage range 85 – 264V (90 – 264V for UL);
47 – 66 Hz; approx. 3VA at 100V
approx. 4VA at 200V
approx. 5VA at 264V

DC: operational voltage range for R: 24V ±10%, R2: 11 – 27V, or P: 85 – 150V (110V ±10% for UL);
ripple 10% p-p max.; approx. 3W

Operating temperature: -5 to +55°C (23 to 131°F)
Operating humidity: 30 to 90% RH (non-condensing)
Mounting: surface or DIN rail
Dimensions: W23×H76×D124 mm (0.91"×2.99"×4.88")
See General Spec. Sheet Figure A-1.
Weight: 150 g (0.33 lbs)
Terminal assignment: See General Spec. Sheet Figure B-1.

PERFORMANCE in percentage of span

Accuracy: ±0.4%
Temp. coefficient: ±0.02%/°C (±0.01%/°F)
Response time: ≤0.5 seconds (0 – 90%)
Ripple: 0.5% p-p max. (100/120 Hz)
Line voltage effect: ±0.1% over voltage range
Insulation resistance: ≥100MΩ with 500V DC
Dielectric strength: 2000V AC @1 minute
(input to output to power to ground)

STANDARDS & APPROVALS

CE conformity: EMC Directive (89/336/EEC)
EMI EN61000-6-4
EMS EN61000-6-2
Low Voltage Directive (73/23/EEC)
EN61010-1
Installation category II
Pollution degree 2
Max. operating voltage 300V
Input or output to power – Reinforced insulation
Input to output – Basic insulation

Approval: UL/C-UL nonincendive
Class I, Division 2, Groups A, B, C, and D
(UL 1604, CAN/CSA-C22.2 No.213)
UL/C-UL general safety requirements
(UL 3111-1, CAN/CSA-C22.2 No.1010-1)

SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM